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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference H-525-0-WO	FOR FURTHER ACTION		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/CA 01/00507	International filing date (day/month/year) 12/04/2001	(Earliest) Priority Date (day/month/year) 19/06/2000	
Applicant HUSKY INJECTION MOLDING SYSTEMS LTD.			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).
 3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

2C

☐ None of the figures.

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International application No.

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Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

Improved injection molding machine heater apparatus using thick-film layers (26, 28, 32) applied directly on a thermally conductive substrate (34) or directly onto the melt channel. Preferably, the substrate (34) is cylindrically shaped with a slot (24) running the length of the substrate (34). The thick film layers (26, 28, 32) and substrate (34) have substantially equal coefficient of thermal expansion. Preferably, the heater assembly has a lower coefficient of thermal expansion than the machine channel it is installed on so as to increase the thermal communication as they heat up. A heat resistant connector housing (36) is slidably installed over the heater assembly (12) for mechanical connection of conductors to the heater without the use of soldering, brazing, welding or other failure prone connection means.

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International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B29C45/27 B29C45/74

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	DE 199 41 038 A (GÜNTHER HEISSKANALTECHNIK GMBH) 1 March 2001 (2001-03-01) the whole document	1-3, 8, 15, 16, 23, 24, 28
A	US 5 973 296 A (JULIANO ET AL) 26 October 1999 (1999-10-26) cited in the application the whole document	1-3, 15, 16, 23, 24, 28
A	EP 0 963 829 A (HUSKY INJECTION MOLDING SYSTEMS) 15 December 1999 (1999-12-15) claims 17, 19; figure 17	1-3, 15, 23, 24, 28
A	EP 0 312 029 A (SUMITOMO HEAVY INDUSTRIES) 19 April 1989 (1989-04-19) the whole document	1-3, 15, 23, 24, 28

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the International filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

19 October 2001

Date of mailing of the international search report

29/10/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Bollen, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 19941038	A	01-03-2001	DE 19941038 A1	01-03-2001
			WO 0117317 A1	08-03-2001
US 5973296	A	26-10-1999	AU 1448200 A	08-05-2000
			EP 1123186 A1	16-08-2001
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EP 0963829	A	15-12-1999	EP 0963829 A1	15-12-1999
			JP 2000006194 A	11-01-2000
EP 0312029	A	19-04-1989	JP 1097619 A	17-04-1989
			JP 2561489 B2	11-12-1996
			AT 105455 T	15-05-1994
			DE 3889410 D1	09-06-1994
			DE 3889410 T2	20-10-1994
			EP 0312029 A1	19-04-1989
			KR 9702299 B1	27-02-1997